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***THE MICROSCOPE AS A FACTOR IN THE DIAGNOSIS,
PROGNOSIS, AND TREATMENT OF MORBID
NEW GROWTHS.***

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The diagnosis of cancer *after* it has once made a permanent home in the human body is no longer excusable. Time was, and not so far remote, when the clinician was obliged to wait for conclusive evidence before resorting to operative procedure, and in that time the growth had infiltrated neighboring tissues to such a degree that the life of the patient was imperiled. This condition of things has changed materially within the past few years. The pathologist, armed with a modern microscope and himself trained in the modern methods of investigation, can give the surgeon almost positive knowledge concerning the malignancy or benignancy of the growth in question. The examination need not be delayed until the patient is under the anæsthetic, but by means of a trocar (emporte-pièce histologique of Duchenne) small sections of the tumor may be removed and examined during the early growth and its character determined. Should its location be upon dangerous ground, such as in organs or tissues where there is constant irritation, or where there is at times increased physiological action, or where there is conjunction of tissues derived from the epi- and meso-blast, then repeated examinations are necessary to detect any degenerative change which may alter the character and consequent diagnosis of the neoplasm. In fact, so important is this that not only will a single examination be insufficient and inadequate, but several such microscopic examinations should be made by two or more equally skilled pathologists. Consensus of opinion should be arrived at as early as possible and communicated to the surgeon in such terms that his duty will be forcibly impressed upon him. The lesson so painfully taught us not long since by the suffering and death of an imperial patient should be well borne in mind and not too quickly

forgotten. A single examination by a single observer means little or nothing when from the clinical standpoint there is the least shadow of a doubt as to its nature.

The position that the microscope takes is then a most important one. Upon its decree depends the diagnosis, prognosis, and treatment of the tumor in question and the involvement of the life and happiness of the patient.

Several cases which have recently come under my observation illustrate better than words the value of the microscope in this branch of our science.

Case I, referred to me by Dr. R. :

Scrapings were brought me taken from a growth seated in the larynx just above the vocal chords. Two previous examinations by skilled pathologists had been made and both declared the neoplasm to be non-malignant. Continuing to increase in size and complicating the normal functions of the trachea and œsophagus, the tumor was removed and sent me for examination, which was immediately made. My diagnosis was carcinoma of the larynx and with it the prognosis and treatment. The infiltration of the neighboring tissues had advanced to such a stage that laryngotomy or even total extirpation of the larynx was contra-indicated. The treatment was directed toward relieving the pain and suffering. A few weeks later the patient died. Had, perhaps, several examinations by the three pathologists been made early in the disease and unity arrived at, a timely operation might have prolonged a life for several years.

Case II, referred to me by Dr. M. :

Mary F., 20 years of age, born in Ireland, entered the Sisters' hospital, Buffalo, N. Y., on November 14, 1890, with the following history: She is a domestic and has been obliged to do a great deal of sweeping, during which the handle of the broom rubbed against the breast-bone. She ascribes her complaint—a tumor on the breast-bone—to this cause. The swelling first appeared eleven months ago, and has been growing larger steadily, till now it is the size of half an orange and extends from above the third to below the fifth rib. Four months ago the glands in the right axilla commenced to swell, and there is now found here a conglomeration of glands as large as two fists, completely filling the whole axilla, but yet somewhat movable. Two months ago the glands in the left axilla commenced to swell and are now as large as a hen's egg. During the last few weeks the glands in both supraclavicular regions have commenced to enlarge. The tumor over the sternum is immovable, presents a feeling

of false fluctuation ; the skin is normal in color and not adherent. She has sharp shooting pains radiating from the tumor in different directions ; has lately commenced to lose flesh, but is yet in pretty good health. There are no symptoms of any growth in the anterior mediastinum, such as hoarseness, displacement of heart, difficulty of breathing, or interference with circulation.

An examination revealed, to the surprise of all, the most malignant of malignant tumors—a melano-sarcoma. Carefully removing every vestige of the growth and the infiltrated glands and by strict antiseptic precautions, the wound healed nicely. To the present day the patient has suffered no relapse, which to her will mean certain death. Had the microscopic examination been neglected or discarded in this case a different condition of things would have been the result.

Case III, referred to me by Dr. F. :

Scrapings were sent me coming from the cervix uteri of a middle-aged woman. The diagnosis arrived at by the physician, and one perfectly justified by the age, history, and symptoms of the patient, was carcinoma uteri. A complete hysterectomy was the operation in view. The microscope, however, radically altered the plans of the gynecologist, and a curette was substituted for the scalpel in the removal of a uterine polypus.

These few cases are sufficient to show the great importance which the microscope bears to the subject of morbid growths and to the surgeon whose aim is the honest and conscientious discharge of his duties. The experience which has been gained justifies me in drawing the following conclusions :

1. That a tumor should be examined as early as possible by one well versed in pathological microscopy.
2. That repeated examinations should be made from time to time, particularly if the clinical history is one arousing any suspicion as to its character.
3. That when a tumor occurs on dangerous ground the services of two or more skilled pathologists should be called into requisition and its nature carefully determined.